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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/745,873	12/26/2000	Seoung-Young Lee	P-136	2230
34610	7590	03/16/2006	EXAMINER	
FLESHNER & KIM, LLP P.O. BOX 221200 CHANTILLY, VA 20153			PHAN, TRI H	
			ART UNIT	PAPER NUMBER
			2661	

DATE MAILED: 03/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/745,873

Applicant(s)

LEE, SEOUNG-YOUNG

Examiner

Tri H. Phan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 and 24-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 1-16, 24 and 28-29 is/are allowed.
- 6) ☐ Claim(s) 17-22, 25-27 and 30-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Amendment/Arguments*

1. This Office Action is in response to the Response/Amendment filed on November 14<sup>th</sup>, 2005. Claims 1-22 and 24-32 are now pending in the application.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 17-22, 25-27 and 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art ('AAPA') in view of **Mimura, Masahiko** (U.S.6,021,123; hereinafter refer as '**Mimura**').

- In regard to claim 17, AAPA discloses, *a method for informing a plurality of terminals of an occupied or unoccupied state of a plurality of channels of a CDMA system, comprising providing a unique PN code for each of the plurality of channels used in the CDMA system (specification, page1, lines 16-17), the unique PN code being provided from a base station to each one of a plurality of terminals in communication with the base station such that each of the terminals receives the unique PN code for each of the plurality of channels* (figure 1 shows the

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terminals and base station in contact with each other; figure 3 shows that each channel has a unique PN code as disclosed in specification; page 1, lines 15-19); *transmitting a power control signal over an occupied channel using the PN code of the occupied channel* (figure 3 shows the power control signal transmitted over an occupied channel using the PN code); *and transmitting an idle signal over an idle channel using the same PN code as the idle channel* (figure 3 shows that the idle channel is transmitted on the same PN code channel as the power control signal).

AAPA does disclose, *for each of the plurality of terminals, monitoring the channel to determine whether or not the channel is available*; but explicitly lacks about monitoring for “*each of the plurality of channels*”. Mimura discloses where monitoring is for “*each of the plurality of channels*”, in determining whether the carrier frequencies, e.g. “*channels*”, is available or not is for (steps 3a, 3b, 3f in figure 3; col. 7, lines 56-67; col. 6, lines 11-25; wherein frequencies such as ‘f01-f33’ are the carrier frequencies for the channels).

Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention was made to monitor the plurality of frequencies, e.g. “*each of the plurality of channels*”, between group of base stations as taught by Mimura into the AAPA’s channels system, with the motivation being to provide the smooth effect with the large number of available channels for the mobile station in soft/hard handoff as disclosed in Mimura: col. 3, lines 63-67.

- Regarding claim 18, in addition to features in base claim 17 (see rationales pertaining the rejection of base claim 17 discussed above), AAPA further discloses, *wherein the power control signal is transmitted on a channel when the base station acquires synchronization and*

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*phase of a data packet transmitted by one of the plurality of terminals* (figure 3 shows the transmission of the power control signal; page 3, lines 13-16 of the specification point to the preamble aiding in synchronization before transmission of the power control signal) *and wherein the idle signal is then transmitted on the channel when the base station has received the entire packet of data* (figure 3 where it shows the idle signal is transmitted when the channel is not used by a terminal or when a packet has finished transmitting as disclosed in specification; page 4, lines 4-8).

- In regard to claim 19, in addition to features in base claim 17 (see rationales pertaining the rejection of base claim 17 discussed above), the combination of AAPA and Mimura does disclose, *wherein each one of the plurality of terminals has stored therein the unique PN code of each of the plurality of channels* (AAPA: figure 3; Mimura: col. 2, lines 33-42 shows the communication between base station and terminals through the use of unique PN codes).

The combination of AAPA and Mimura fails to explicitly disclose about the method for “storing” the unique PN code for each of the plurality of channels. However, the PN codes must be stored within the terminals so that they may communicate with the base station through the radio path, e.g. setting up the PN code synchronization between the mobile station and each of the plurality of base stations as disclosed in col. 2, lines 33-42; that including the group frequencies, e.g. “PN codes”, for the new radio path with new base station group, when the mobile station roams with soft/hard handoff process.

Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention was made to implement the method for “storing” the plurality of frequencies, e.g.

*“PN code of each of the plurality of channels”*, between group of base stations as taught by Mimura into the AAPA’s channels system, with the motivation being to provide the smooth effect with the large number of available channels for the mobile station in soft/hard handoff as disclosed in Mimura: col. 3, lines 63-67.

- Regarding claim 20, AAPA discloses, *a method of allocating a plurality of channels in a CDMA packet data system, comprising receiving channel availability information for the channels from a base station such that each of a plurality of terminals receives the channel availability information of the channels; dynamically allocating an available channel and transmitting a data packet to the base station using the allocated channel* (AAPA: figure 1 shows the terminals and base station in contact with each other; figure 3 shows each of a plurality of terminals receive idle information, e.g. “channel availability information of the channels”, in order to transmit data packet to the base station using the allocated channel); *receiving from the base station a power control signal on the allocated channel* (figure 3 shows the power control signal on the allocated channel), *wherein the plurality of terminals are configured to simultaneously monitor channel availability information for the channels of the base station and transmit data on the first available channel detected* (figure 3 shows the simultaneously monitoring of the terminals for idle state in the channel and transmitting data on the first detected available channel).

AAPA does disclose, *wherein the plurality of terminals ... monitoring channel availability information for the channels*; but explicitly lacks about monitoring for *“each of the plurality of channels”*. Mimura discloses where monitoring is for *“each of the plurality of*

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*channels*", in determining whether the carrier frequencies, e.g. "*channels*", is available or not is for (steps 3a, 3b, 3f in figure 3; col. 7, lines 56-67; col. 6, lines 11-25; wherein frequencies such as 'f01-f33' are the carrier frequencies for the channels).

Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention was made to monitor the plurality of frequencies, e.g. "*each of the plurality of channels*", between group of base stations as taught by Mimura into the AAPA's channels system, with the motivation being to provide the smooth effect with the large number of available channels for the mobile station in soft/hard handoff as disclosed in Mimura: col. 3, lines 63-67.

- In regard to claims 21-22, in addition to features in base claim 20 (see rationales pertaining the rejection of base claim 20 discussed above), AAPA further discloses *wherein the power control signal is released when the data packet has been transmitted* (see figure 3; specification, page 4, lines 4-6) and *wherein the power control signal indicates unavailability of the channel* (see figure 3; specification, page 4, lines 1-3).

- Regarding claim 25, AAPA discloses, *a method for allocating a plurality of channels comprising monitoring, by a mobile terminal, the channel from a base station such that the mobile terminal receives the channel availability information of the channel* (wherein the power control signal and the idle signal are the channel availability information of the channel); *detecting, by the mobile terminal, an available channel from the channel from the base station and transmitting, by the mobile terminal, data over the available channel* (figure 3; specification,

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page 2, lines 1-7; page 4, lines 1-8 wherein the existing of the power control signal indicates the occupied channels and the idle signal indicates the available channels).

AAPA does disclose about the mobile station's monitoring and receiving the channel availability information of the channel; but explicitly lacks about monitoring and receiving the channel availability information for "*each of the plurality of channels*". Mimura discloses where monitoring and receiving the channel availability information for each of the frequencies as disclosed in col. 8, lines 44-46, in determining whether the carrier frequencies, e.g. "*channels*", is available or not is for (steps 3a, 3b, 3f in figure 3; col. 7, lines 56-67; col. 6, lines 11-25; wherein frequencies such as 'f01-f33' are the carrier frequencies for the channels).

Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention was made to monitor and receiving the channel availability information for "*each of the plurality of channels*", between group of base stations as taught by Mimura into the AAPA's channels monitoring system, with the motivation being to provide the smooth effect with the large number of available channels for the mobile station in soft/hard handoff as disclosed in Mimura: col. 3, lines 63-67.

- In regard to claim 26, in addition to features in base claim 25 (see rationales pertaining the rejection of base claim 25 discussed above), AAPA further discloses, *wherein transmitting from the base station to the mobile terminal a state signal indicating whether the at least one channel of the at least one other mobile terminal is available or unavailable for transmission* (figure 3 shows the transmitting idle signal; specification, page 2, lines 5-7; page 4, lines 5-8).



- Regarding claim 27, in addition to features in base claim 25 (see rationales pertaining the rejection of base claim 25 discussed above), the combination of AAPA and Mimura does disclose, *transmitting from the base station to the mobile terminal the PN code used by the base station* (AAPA: figures 1 and 3; shows the communication between base station and terminals through the use of PN codes); but explicitly lacks about transmitting “*all of the PN codes*” used by the base station to the mobile station.

Mimura discloses about transmitting the carrier frequencies, e.g. “*all of the PN codes*”, used by the base station to the mobile station as disclosed in col. 7, lines 58-67; so the mobile station can communicate with the base station through the radio path; that including the group frequencies, e.g. PN codes, for the new radio path with new base station group, when the mobile station roams with soft/hard handoff process as disclosed in Mimura: figure 3).

Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention was made to implement the transmitting of all the unique PN code from the base station to the mobile terminal as taught by the Mimura’s CDMA system into the AAPA’s transmitting method, with the motivation being to provide the smooth effect with the large number of available channels for the mobile station in soft/hard handoff as disclosed in Mimura: col. 3, lines 63-67.

- In regard to claims 30-32, in addition to features in base claims 17, 20 and 25 (see rationales pertaining the rejection of base claims 17, 20 and 25 discussed above), the combination of AAPA and Mimura does disclose, *wherein a terminal is not pre-allocated to a specific one of the plurality of channels* (AAPA: figure 3, specification, page 1, lines 15-19

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shows wherein each terminal group has different PN code, e.g. PN code for other terminal group is not "*pre-allocated*" to the different terminal group; Mimura: col. 8, lines 36-46; col. 9, lines 8-16 shows the communication between base station and terminal through the use of second frequencies group, e.g. "*channels*", where the first and second frequencies group are different from each other with group of base stations as disclosed in col. 6, lines 11-20; e.g. "*terminal is not pre-allocated to a specific one of the plurality of channels*").

#### ***Response to Amendment/Arguments***

4. Applicant's arguments filed on February 5<sup>th</sup>, 2004 with respect to claims 2, 4 and 7-22 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Allowable Subject Matter***

5. Claims 1-16, 24 and 28-29 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Many references in the art disclose the method for allocating channels in the CDMA system. But no prior art reference discloses, for each of the plurality of terminals, simultaneously monitoring, each of the plurality of channels in parallel to detect whether the state signal indicating channel availability indicates a channel is idle (claim 1); or monitoring each one of the plurality of channels to determine when the occupied state of one of the channels is released (claim 8).

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tri H. Phan, whose telephone number is (571) 272-3074. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi H. Pham can be reached on (571) 272-3179.

**Any response to this action should be mailed to:**

**Commissioner of Patents and Trademarks**

Washington, D.C. 20231

**or faxed to:**

**(571) 273-8300**

Hand-delivered responses should be brought to Randolph Building, 401 Dulany Street, Alexandria, VA 22314.

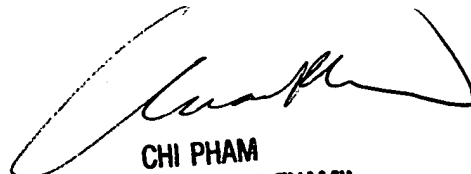
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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office, whose telephone number is (571) 272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tri H. Phan  
March 9, 2006



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